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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,628	01/10/2002	Joseph C. Rapuano	17561-069	8607
7590	11/01/2004			
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY and POPEO, P.C. One Financial Center Boston, MA 02111				
			EXAMINER	
			GOFF II, JOHN L	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/044,628	RAPUANO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	John L. Goff	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 05 October 2004.  
 2a) This action is **FINAL**.                  2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-25 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 10 January 2002 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/5/04 has been entered. The previous objection to the specification has been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 10, 12, 22, and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
5. Claim 10 recites the limitation "the conductive foil" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is noted only one of the layers of conductive foil is cosheeted with the protective-carrier sheeting on the same roll such that when the cosheeted layers are pressed to a layer of conductive foil (only) a sandwich structure comprising

conductive foil-protective sheeting-conductive foil is formed. It is suggested to delete "wherein the conductive foil" and insert therein "wherein one of the layers of conductive foil" to overcome the rejection.

6. Claims 12 and 24 require providing the protective-carrier sheeting in the form of separate sheets. Claims 1 and 13 were amended to require providing protective-carrier sheeting extended from a protective-carrier-sheeting source, i.e. a single uncut layer of sheeting extended from a source. Claims 12 and 24 should be cancelled to overcome the rejection.

7. Claim 22 recites the limitation "the protective-carrier sheeting" in line 4. There is insufficient antecedent basis for this limitation in the claim. It is noted at least one of the layers of conductive foil is cosheeted with the protective-carrier sheeting on the same roll such that when the cosheeted layers are pressed to a dielectric layer a sandwich structure comprising protective sheeting-conductive foil-dielectric-conductive foil is formed. It is suggested to delete "sandwiching a dielectric layer between two layers of conductive foil extended from one or more conductive-foil sources, wherein the conductive foil and the protective carrier sheeting are unwound from a common roll" and insert therein "sandwiching a dielectric layer between two layers of conductive foil and a layer of protective-carrier sheeting the layers extended from one or more sources, wherein one of the layers of conductive foil and the protective carrier sheeting are unwound from a common roll" and delete step (b) to overcome the rejection.

***Claim Rejections - 35 USC § 103***

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-9, 11-21, and 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnston (U.S. Patent 4,875,283) in view of any one of Pedretti (WO 00/16596), Gotz (U.S. Patent 5,354,409), Fisher et al. (U.S. Patent 5,942,314), or Held (U.S. Patent 4,579,612).

Johnston discloses a method for producing a plurality of printed wiring boards in a single pressing step wherein each wiring board comprises two layers of copper foil (i.e. conductive foil) with a layer of prepreg (i.e. dielectric) sandwiched therebetween and each wiring board is separated by a layer of aluminum foil (i.e. protective-carrier sheet) (the aluminum foil layer having a thickness in the range from 0.127 mm to about 0.635 mm). Johnston teaches the method comprises steps: (a) sandwiching a prepreg layer between two layers of copper foil, (b) covering at least one of the layers of copper foil with a layer of aluminum foil, and (c) repeating steps (a) and (b) to form a “book” of wiring boards wherein each layer of copper foil is sandwiched between a layer of prepreg and a layer of aluminum foil without the copper foil layers bonded to the aluminum foil layer or prepreg layer (Figure 6 and Column 5, lines 39-49 and Column 6, lines 13-30). Additionally, Johnston may be further interpreted to teach a method

comprising steps: (a) sandwiching a layer of aluminum foil between two layers of copper foil, (b) covering one of the layers of copper foil with a layer of prepreg, and (c) repeating steps (a) and (b) to form a "book" of wiring boards without the copper foil layers bonded to the aluminum foil layers or prepreg layers. Johnston does not specifically recite the source of the copper foil or aluminum foil. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the sandwiching and covering steps of the method taught by Johnston wherein the copper foil layers and aluminum foil layers are provided as extended from a roll supply as this was a well known and conventional technique in the art for continuously supplying (i.e. less time consuming) layers of this type with less opportunity for contamination (e.g. by dust) to a bonding process as shown for example by any one of Pedretti, Gotz, Fisher et al., or Held.

Regarding the particular layer sandwiching and covering steps, as noted above Johnston may be interpreted to disclose both methods required by the claims. Furthermore, each method forms an identical wiring board such that it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to form the wiring boards taught by Johnston in any suitable, experimentally determined manner of sandwiching and covering steps as doing so would have required nothing more than ordinary skill and routine experimentation with all methods forming identical wiring boards to be pressed.

Pedretti, Gotz, Fisher et al., and Held are exemplary of the well known and conventional technique for continuously supplying without contamination (e.g. by dust) layers such as copper foil, aluminum foil, prepreg, etc. to a process for bonding "lay-ups" of the supplied layers wherein the layers are continuously provided as extending from a roll supply (Figure 1 and Page

4, lines 7-11 and Page 6, lines 8-24 of Pedretti, Figure 1 and Column 1, lines 14-23 and 55-63 and Column 4, lines 24-32 and 41-42 of Gotz and Column 1, lines 6-12 and Column 5, lines 23-28 of Fisher et al. and Figure 1 and Column 3, lines 62-66 and Column 4, lines 3-8 of Held).

Regarding claim 25, absent any unexpected results, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to experimentally determine the most efficient, least time-consuming order for cutting the layers of the book as doing so would have required nothing more than ordinary skill and routine experimentation.

***Allowable Subject Matter***

10. Claims 10 and 22 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

11. The following is a statement of reasons for the indication of allowable subject matter:  
See paragraph 10 of the previous Office Action.

***Response to Arguments***

12. Applicant's arguments with respect to claims 1-9, 11-21, and 23-25 have been considered but are moot in view of the new ground(s) of rejection. Regarding applicants arguments to Pedretti, it is noted Pedretti is cited solely as exemplary of the well known and conventional technique of supplying layers such as copper foil and aluminum foil to a bonding process of the supplied layers wherein the layers are continuously provided as extending from a roll supply.

***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **(571) 272-1216**. The examiner can normally be reached on M-F (7:15 AM - 3:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John L. Goff

  
JEFF H. AFTERGUT  
PRIMARY EXAMINER  
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